WHAT IS CLAIMED IS:

1.   A method for providing a consistent visual appearance of one or more pixels of a display screen with respect to a viewing position by compensating for variations between one or more perceived pixel level values associated with the one or more pixels and one or more corresponding pixel level values associated with the one or more pixels, the variations associated with one or more viewing angles between one or more locations of the one or more pixels and the viewing position, the method comprising the steps of:

establishing the viewing position; and

applying a respective different correction factor to each of the one or more corresponding pixel level values based on a respective one of the one or more viewing angles associated with the each.

2.   The method of claim 1, wherein the step of applying the respective different correction factor further includes establishing one or more different non-linear correction curves corresponding to the one or more locations, the different non-linear correction curves relating a range of pixel level values to a corresponding range of corrected pixel level values associated with the viewing position.

3.   The method of claim 1, wherein the step of establishing the viewing position further includes the steps of:

displaying a calibration pattern on the display screen;

receiving one or more user inputs associated with the one or more locations responsive to the display of the calibration pattern; and

establishing the viewing position and one or more non-linear correction curves for each of the one or more locations relative to the established viewing position based on the one or more received user inputs.

4.   The method of claim 3, further including the steps of:

storing the received one or more user inputs with an association to a user identity; and

processing a user input to obtain the user identity and the one or more stored user inputs associated therewith;

wherein the step of establishing the viewing position further includes the step of establishing the viewing position and one or more non-linear correction curves for each of the one or more locations relative to the established viewing position based on the one or more user inputs.

5.   The method of claim 1, further comprising the steps of:

detecting a change in a relative orientation between a display orientation and the viewing position; and

applying a second respective different correction factor to each of the one or more corresponding pixel level values based on the detected change in the relative orientation.

6.   The method of claim 5, wherein the step of applying the second respective different correction factor further includes establishing one or more second different non-linear correction curves corresponding to one or more relative orientations between the display orientation and the viewing position, the second different non-linear correction curves relating the range of pixel level values to a second corresponding range of corrected pixel level values associated with the one or more relative orientations.

7.   The method of claim 1, wherein the step of applying the different correction factor further includes the steps of:

determining if the viewing position and a location of the each corresponds to a first reference location; and

interpolating using the first reference location and a second reference location to arrive at an interpolated correction factor if the determined location of

5   the each does not correspond to the first reference location.

8.   The method of claim 5, wherein the step of applying the second different correction factor further includes the steps of:

determining if the changed relative orientation corresponds to a first reference orientation; and

10   interpolating using the first reference orientation and a second reference orientation to arrive at an interpolated correction factor if the determined changed relative orientation does not correspond to the first reference orientation.

9.   The method of claim 1, wherein the step of applying the different correction factor further includes the step of applying an analytical function to

15   generate the different correction factor.

10.   The method of claim 5, wherein the step of applying the second different correction factor further includes the step of applying an analytical function to generate the second different correction factor.

11.   The method of claim 5, wherein the step of detecting further includes the

20   step of reading one or more sensors indicating one or more of: display orientation and viewing position.

12.   The method of claim 11, wherein the one or more sensors include one or more of: a display orientation sensor, a viewing position sensor, a viewer feature tracking sensor.

13.   The method of claim 12, wherein the viewing position sensor further includes a sensor for sensing the position of a remote device coupled to the viewer.

14.   The method of claim 12, wherein the viewer feature tracking sensor further includes a camera for generating an image associated with a viewer, and a means for analyzing the image to track one or more features associated with the viewer.

15.   An apparatus for providing a consistent visual appearance of one or more pixels of a display screen with respect to a viewing position by compensating for variations between one or more perceived pixel level values associated with the one or more pixels and one or more corresponding pixel level values associated with the one or more pixels, the variations associated with one or more viewing angles between one or more locations of the one or more pixels and the viewing position, the apparatus comprising:

a display;

a memory; and

a processor coupled to the memory and the display, the processor configured to:

establish the viewing position; and

apply a respective different correction factor to each of the one or more corresponding pixel level values based on a respective one of the one or more viewing angles associated with the each.

16.   The apparatus of claim 15, wherein the step of applying the respective different correction factor further includes establishing one or more different non-linear correction curves corresponding to the one or more locations, the different non-linear correction curves relating a range of pixel level values to a

5   corresponding range of corrected pixel level values associated with the viewing position.

17.   The apparatus of claim 15, wherein the processor, in establishing the viewing position, is further configured to:

display a calibration pattern on the display screen;

10   receive one or more user inputs associated with the one or more locations responsive to the display of the calibration pattern; and

establish the viewing position and one or more non-linear correction curves for each of the one or more locations relative to the established viewing position based on the one or more received user inputs.

15   18.   The apparatus of claim 17, wherein the processor is further configured to:

store the received one or more user inputs with an association to a user identity; and

process a user input to obtain the user identity and the one or more stored user inputs associated therewith;

20   wherein the processor, in establishing the viewing position is further configured to establish the viewing position and one or more non-linear correction curves for each of the one or more locations relative to the established viewing position based on the one or more user inputs.

19.   The apparatus of claim 15, wherein the processor is further configured to:

detect a change in a relative orientation between a display orientation and the viewing position; and

apply a second respective different correction factor to each of the one or more corresponding pixel level values based on the detected change in the relative

5   orientation.

20.   The apparatus of claim 19, wherein the processor, in applying the second respective different correction factor, is further configured to establish one or more second different non-linear correction curves corresponding to one or more relative orientations between the display orientation and the viewing position, the

10   second different non-linear correction curves relating the range of pixel level values to a second corresponding range of corrected pixel level values associated with the one or more relative orientations.

21.   The apparatus of claim 15, wherein the processor, in applying the different correction factor, is further configured to:

15   determine if the viewing position and a location of the each corresponds to a first reference location; and

interpolate using the first reference location and a second reference location to arrive at an interpolated correction factor if the determined location of the each does not correspond to the first reference location.

20   22.   The apparatus of claim 19, wherein the processor, in applying the second different correction factor, is further configured to:

determine if the changed relative orientation corresponds to a first reference orientation; and

interpolate using the first reference orientation and a second reference orientation to arrive at an interpolated correction factor if the determined changed relative orientation does not correspond to the first reference orientation.

23.   The apparatus of claim 15, wherein the processor, in applying the different correction factor, is further configured to apply an analytical function to generate the different correction factor.

24.   The apparatus of claim 19, wherein the processor, in applying the second different correction factor, is further configured to apply an analytical function to generate the second different correction factor.

25.   The apparatus of claim 19, further comprising one or more sensors, and wherein the processor, in detecting, is further configured to read the one or more sensors indicating one or more of: display orientation and viewing position.

26.   The apparatus of claim 25, wherein the one or more sensors include one or more of: a display orientation sensor, a viewing position sensor, a viewer feature tracking sensor.

27.   The apparatus of claim 26, wherein the viewing position sensor further includes a sensor for sensing the position of a remote device coupled to the viewer.

28.   The apparatus of claim 26, wherein the viewer feature tracking sensor further includes a camera for generating an image associated with a viewer, and wherein the processor is further configured to analyze the image to track one or more features associated with the viewer.

29.   An article of manufacture for providing a consistent visual appearance of one or more pixels of a display screen with respect to a viewing position by compensating for variations between one or more perceived pixel level values associated with the one or more pixels and one or more corresponding pixel level

5   values associated with the one or more pixels, the variations associated with one or more viewing angles between one or more locations of the one or more pixels and the viewing position, the article of manufacture comprising:

a computer readable medium; and

instruction carried on the computer readable medium, the instructions

10   readable by a processor, the instructions for causing the processor to:

establish the viewing position; and

apply a respective different correction factor to each of the one or more corresponding pixel level values based on a respective one of the one or more viewing angles associated with the each.

15   30.   The article of manufacture of claim 29, wherein the instructions, in causing the processor to applying the respective different correction factor, further causes the processor to establish one or more different non-linear correction curves corresponding to the one or more locations, the different non-linear correction curves relating a range of pixel level values to a corresponding range of corrected

20   pixel level values associated with the viewing position.

31.   The article of manufacture of claim 29, wherein the instructions, in causing the processor to establish the viewing position, further cause the processor to:

display a calibration pattern on the display screen;

receive one or more user inputs associated with the one or more locations

25   responsive to the display of the calibration pattern; and

establish the viewing position and one or more non-linear correction curves for each of the one or more locations relative to the established viewing position based on the one or more received user inputs.

32. The article of manufacture of claim 31, wherein the instructions further cause the processor to:

store the received one or more user inputs with an association to a user identity; and

process a user input to obtain the user identity and the one or more stored user inputs associated therewith;

wherein the instructions, in causing the processor to establish the viewing position, further cause the processor to establish the viewing position and one or more non-linear correction curves for each of the one or more locations relative to the established viewing position based on the one or more user inputs.

33. The article of manufacture of claim 29, wherein the instructions further cause the processor to:

detect a change in a relative orientation between a display orientation and the viewing position; and

apply a second respective different correction factor to each of the one or more corresponding pixel level values based on the detected change in the relative orientation.

34. The article of manufacture of claim 33, wherein the instructions, in causing the processor to apply the second respective different correction factor, further cause the processor to establish one or more second different non-linear correction curves corresponding to one or more relative orientations between the display orientation and the viewing position, the second different non-linear correction

curves relating the range of pixel level values to a second corresponding range of corrected pixel level values associated with the one or more relative orientations.

35.   The article of manufacture of claim 29, wherein the instructions, in causing the processor to apply the different correction factor, further cause the processor

5   to:

determine if the viewing position and a location of the each corresponds to a first reference location; and

interpolate using the first reference location and a second reference location to arrive at an interpolated correction factor if the determined location of the each

10   does not correspond to the first reference location.

36.   The article of manufacture of claim 33, wherein the instructions, in causing the processor to apply the second different correction factor further cause the processor to:

determine if the changed relative orientation corresponds to a first

15   reference orientation; and

interpolate using the first reference orientation and a second reference orientation to arrive at an interpolated correction factor if the determined changed relative orientation does not correspond to the first reference orientation.

37.   The article of manufacture of claim 29, wherein the instructions, in causing

20   the processor to apply the different correction factor, further cause the processor to apply an analytical function to generate the different correction factor.

38.   The article of manufacture of claim 33, wherein the instructions, in causing the processor to apply the second different correction factor, further cause the

processor to apply an analytical function to generate the second different correction factor.

39.   The article of manufacture of claim 33, wherein the instructions, in causing the processor to detect, further cause the processor to read one or more sensors indicating one or more of: display orientation and viewing position.

40.   A computer system for providing a consistent visual appearance of one or more pixels of a display screen with respect to a viewing position by compensating for variations between one or more perceived pixel level values associated with the one or more pixels and one or more corresponding pixel level values associated with the one or more pixels, the variations associated with one or more viewing angles between one or more locations of the one or more pixels and the viewing position, the method comprising the steps of:

        means for establishing the viewing position; and

        means for applying a respective different correction factor to each of the one or more corresponding pixel level values based on a respective one of the one or more viewing angles associated with the each.

41.   The computer system of claim 40, wherein the means for applying the respective different correction factor further includes means for establishing one or more different non-linear correction curves corresponding to the one or more locations, the different non-linear correction curves relating a range of pixel level values to a corresponding range of corrected pixel level values associated with the viewing position.

42.   The computer system of claim 40, wherein the means for establishing the viewing position further includes:

means for displaying a calibration pattern on the display screen;

means for receiving one or more user inputs associated with the one or more locations responsive to the display of the calibration pattern; and

means for establishing the viewing position and one or more non-linear

5   correction curves for each of the one or more locations relative to the established viewing position based on the one or more received user inputs.

43.   The computer system of claim 42, further including:

means for storing the received one or more user inputs with an association to a user identity; and

10   means for processing a user input to obtain the user identity and the one or more stored user inputs associated therewith;

wherein the means for establishing the viewing position further includes means for establishing the viewing position and one or more non-linear correction curves for each of the one or more locations relative to the established viewing

15   position based on the one or more user inputs.

44.   The computer system of claim 40, further comprising the steps of:

means for detecting a change in a relative orientation between a display orientation and the viewing position; and

means for applying a second respective different correction factor to each

20   of the one or more corresponding pixel level values based on the detected change in the relative orientation.

45.   The computer system of claim 44, wherein the means for applying the second respective different correction factor further includes means for establishing one or more second different non-linear correction curves

25   corresponding to one or more relative orientations between the display orientation

and the viewing position, the second different non-linear correction curves relating the range of pixel level values to a second corresponding range of corrected pixel level values associated with the one or more relative orientations.

46.   The computer system of claim 40, wherein the means for applying the

5   different correction factor further includes:

means for determining if the viewing position and a location of the each corresponds to a first reference location; and

means for interpolating using the first reference location and a second reference location to arrive at an interpolated correction factor if the determined

10   location of the each does not correspond to the first reference location.

47.   The computer system of claim 44, wherein the means for applying the second different correction factor further includes:

means for determining if the changed relative orientation corresponds to a first reference orientation; and

15   means for interpolating using the first reference orientation and a second reference orientation to arrive at an interpolated correction factor if the determined changed relative orientation does not correspond to the first reference orientation.

48.   The computer system of claim 40, wherein the means for applying the different correction factor further includes the means for applying an analytical

20   function to generate the different correction factor.

49.   The computer system of claim 44, wherein the means for applying the second different correction factor further includes means for applying an analytical function to generate the second different correction factor.

50.　　The computer system of claim 44, wherein the means for detecting further includes means for reading one or more sensors indicating one or more of: display orientation and viewing position.

51.　　The computer system of claim 50, wherein the one or more sensors include one or more of: a display orientation sensor, a viewing position sensor, a viewer feature tracking sensor.

52.　　The computer system of claim 51, wherein the viewing position sensor further includes a sensor for sensing the position of a remote device coupled to the viewer.

53.　　The computer system of claim 51, wherein the viewer feature tracking sensor further includes a camera for generating an image associated with a viewer, and a means for analyzing the image to track one or more features associated with the viewer.